

The flora of Mt. Mansfield.

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Mt. Mansfield is on the western branch of the Green mountain "Y" about twenty miles to the northeast of Burlington. It is a long range of four peaks separated from Sterling mountain on the northeast by Smuggler's Notch, a narrow pass about three miles long, enclosed by tremendous cliffs. Looking from the east or west the Mansfield peaks present an excellent profile of the human face, for one sees distinctly marked the forehead, nose, lips and chin.

Mansfield is the second peak of the Green mountain range, the Chin having an elevation of 4,329 feet (Killington 4,380 feet); but as far as alpine botanizing is concerned it completely overshadows them all, even far famed Willoughby, for there have been but two plants (*Sisymbrium humile* and *Aster polypyllus*) found at Willoughby not duplicated at Mansfield; while Mansfield has thirty and more not found at Willoughby. The early botanical history of the mountain principally clusters around the two alpine peaks, the Nose and the Chin, although Pursh, the first botanist of whom we have an account as visiting the mountain, found *Aspidium aculeatum Braunii* for the first time, in the base of Smuggler's Notch, on his trip through the New England mountains in 1807. In July or August, 1829, Dr. J. W. Robbins on his second trip through Vermont visited Mansfield and found a number of alpine plants. In 1839 it was visited by Edward Tuckerman and W. F. Macrae, and a few years later by Prof. Jos. Torrey and Prof. Wood, but it remained for Mr. C. G. Pringle to find some of the rarer plants on the peaks and to discover the wonderful alpine gardens in Smuggler's Notch.

His researches were commenced in the early '70's and were the means of adding several species to the flora of the eastern United States, as well as new stations for many plants found before only at Willoughby or the White mountains.

Since Pringle commenced his discoveries, Smuggler's Notch has been visited by several of our good botanists, including Dr. Morong, Ezra Brainerd, the Faxons, F. H. Horsford, G. H. Perkins, J. A. Bates, A. J. Grout and others.

To Dr. Morong we owe the discovery on the Sterling side of the Notch of *Primula Mistassinica*, found there only by him. Although the mountain and Notch have been so thoroughly explored by Pringle and others there still remains opportunity for new discoveries and plenty of work for an enthusiast in the relocation of old stations. For instance; Prof. Torrey found *Deschampsia atropurpurea*, specimens of which he has left in the university herbarium at Burlington, Vermont, but it has been found by no one else. Besides, the peaks are covered with ledges which have never been thoroughly explored, and to the south is a small pass, Underhill Notch, in which there are cliffs quite similar to Smuggler's Notch and which have been visited, I think, only by Pringle, Horsford and myself, and by no one for more than an hour or two. I went through this notch July 11th, 1894 and found new stations for *Aspidium fragrans*, *Woodsia glabella*, *Pellaea gracilis* and *Habenaria fimbriata*.

The complete flora of the mountain would probably comprise three or four hundred species about ninety of which are mountain plants, and about forty of these of especial interest. A few of these plants can be found both on the peaks and in the Notch. Among them are *Alnus viridis* DC., *Pyrus sambucifolia* C. & S., *Amelanchier oligocarpa* Roem., *Aspidium aculeatum Braunii* Koch, *Aspidium fragrans* Sw., and *Woodsia hyperborea* B. Br. and *glabella* R. Br. These, however, are exceptions, as the floras of the Notch and of the peaks show a wide difference and very little resemblance.

The peaks from the distance look like great mountain pastures, but after one has spent a day climbing the ledges he will conclude that they are goat pastures, if any.

The rocks are carpeted with *Arenaria Groenlandica* Sp. and *Vaccinium uliginosum* L., along with great quantities of *Vaccinium Vitis-Idæa* L. and *V. Pennsylvanicum angustifolium* Gray, *Carex rigida Bigelovii* Tuck. and *C. debilis Rudgei* Bailey, *Funcus trifidus* L., *Hierochloa alpina* R. & S., *Agrostis canina alpina* Oakes and *Lycopodium Selago* L. The sphagnum bogs with which the summits are dotted are filled with *Empetrum nigrum* L., *Vaccinium Oxycoccus* L., *Carex Magellanica* Lam. and *C. pauciflora* Lightf. Among the more local or rarer plants are *Prenanthes Boottii* Gray and *Diapensia Lapponica* L., found upon the bleak exposed summits; *Vaccinium cæspitosum* Mx. found in less exposed places;

Polygonum viviparum L. in the dry cold clefts; *Viburnum pauciflorum* Pyl., *Carex Michauxiana* Boeckl. and *Salix phylicifolia* L. in moist alpine ravines; *Salix Uva-ursi* Pursh, *S. balsamifera* Barrett, and *Betula papyrifera minor* Tuck. among the alpine rocks; and *Comandra livida*, Rich., a shy, rare habitant of sphagnum, evergreen-shaded bogs; but the greatest surprise in your plant discoveries on the peak is to find *Rumex Patientia* L., though this is one of the products of civilization found near the Summit House.

From the base of the Notch one is as badly deceived as by the peaks, for the cliffs look like pastures, only fresher and greener; but beware of the Smuggler's Notch pastures unless you enjoy dangerous cliff climbing, for when, after over a thousand foot climb you reach the pastures, they prove to be cliffs of the worst kind, covered with *Alnus viridis* DC. and *Scirpus caespitosus* L., the ladder and anchor of the Notch.

Upon reaching this altitude you can commence your successful work, for here in these massive cliffs is the place where Pringle made most of his discoveries. Probably the first plant you will notice will be *Saxifraga aizoides* L., along the little rivulets; higher up in the moist places, *Saxifraga oppositifolia* L., and in the moist, more exposed cliffs, *Saxifraga Aizoon* Jacq.; in the rich bottoms and sides of the ravines, *Astragalus Robbinsii* Gray, long mistaken for *A. alpinus* L., *Hedysarum boreale* Nutt., *Castilleja pallida septentrionalis* Gray, and *Erigeron hyssopifolius* Mx.; higher up in more exposed places *Artemisia Canadensis* Mx.; in the lower cliffs *Solidago Virgaurea Randii* Porter; near the top of the cliffs, *Solidago Virgaurea monticola* Porter, with a perplexing gradation between them everywhere; in the moist, cold cliffs, *Aster Novi-Belgii* L., *Calamagrostis stricta* Trin., *Carex scirpoidea* Mx., and *Conioselinum Canadense* T. & G. If you come upon a bit of cliff which is rotten and slimy from the dripping water, there you will find *Pinguicula vulgaris* L. Striking out from the ravines into the main cliffs, you will find on the wet, mossy, shaded ledges, *Woodsia glabella* R. Br.; in the moist, deeply shaded clefts, *Asplenium viride* Hud.; on the moist, shaded cliffs, *Pellaea gracilis* Hook.; and lucky is the botanist who, on dry, exposed cliffs finds the *Woodsia hyperborea* R. Br., or the *Aspidium fragrans* Sw. A peculiarity of the latter is that it always grows in dry clefts, sheltered from the rain. One of the rarest of the Smuggler's

Notch plants is *Draba incana* L.; C. G. Pringle says, "I once found a patch that I could have covered with my hat." I found a similar patch in 1893. Before this Willoughby was the only eastern station. The variety *arabisans* Watson is rather common in the moist cliffs. Another great variety is *Arenaria verna hirta* Watson, of which Pringle only found a small patch. This grows in the coldest alpine localities, in moist, gravelly soil, where also you will probably find *Gentiana Amarella acuta* Hook. f., *Luzula spicata* Des., and *Festuca ovina brevifolia* (new to Gray's Manual), L., plants equally rare. You may also find *Carex atrata ovata* Boott.; in the base of the Notch, the type station for *Aspidium aculeatum Braunii* Koch, one can also find *Pyrola minor* L.

The pleasure of the mountain climb is enhanced by the marvelously beautiful views, as well as by the feeling that one may collect, among these wild heights, plants which many others can know only from the dried specimens.

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